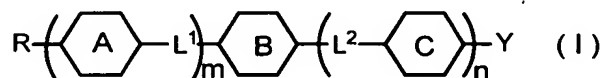
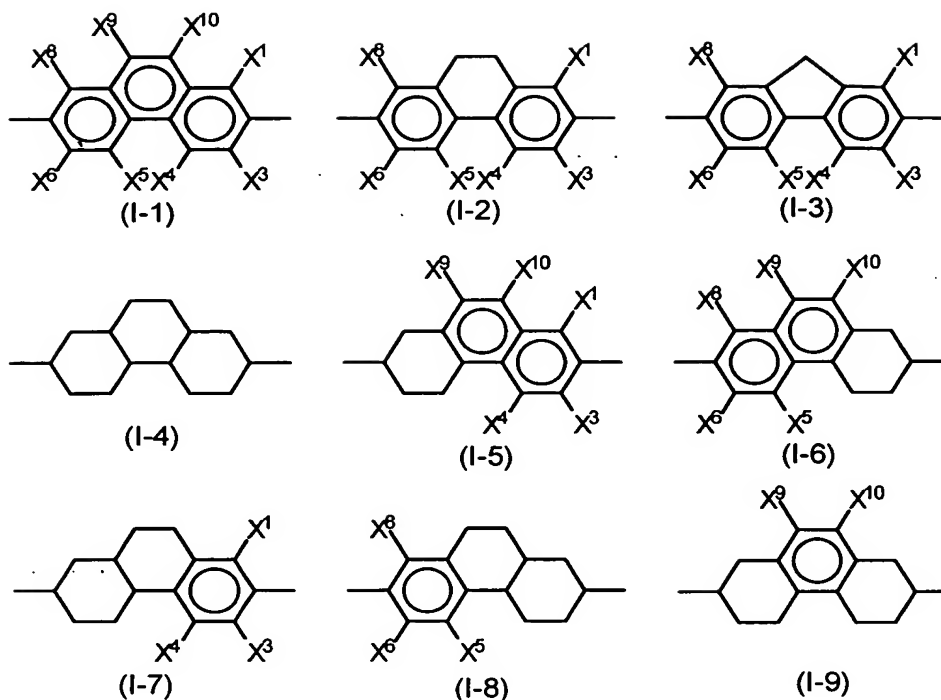


CLAIMS

1. A fused ring compound represented by a general formula
(I)



(wherein, R represents an alkyl group or alkoxyl group of 1 to 16 carbon atoms, an alkenyl group of 2 to 16 carbon atoms, an alkenyloxy group of 3 to 16 carbon atoms, or an alkyl group of 1 to 12 carbon atoms substituted with an alkoxyl group of 1 to 10 carbon atoms, and said groups may be substituted with a halogen, and in cases in which an asymmetric carbon arises due to substitution or branching, may be either one of optically active and a racemic mixture; ring A and ring C each represent, independently, any one of a trans-1,4-cyclohexylene group in which one CH₂ structure within said group or two or more non-adjacent CH₂ structures within said group may be replaced with -O- and/or -S-, a 1,4-phenylene group in which one CH structure within said group or two or more non-adjacent CH structures within said group may be replaced with -N=, a 1,4-cyclohexenylene group, a 1,4-bicyclo(2.2.2)octylene group, a piperidine-1,4-diyl group, a naphthalene-2,6-diyl group, a trans-decahydronaphthalene-trans-2,6-diyl group, and a 1,2,3,4-tetrahydronaphthalene-2,6-diyl group, and said groups may be substituted with either one of a cyano group and a halogen; ring B represents any one of general formulas (I-1) to (I-9))



(wherein, X¹, X³, X⁴, X⁵, X⁶, X⁸, X⁹ and X¹⁰ each represent, independently, any one of a hydrogen atom, a chlorine atom and a fluorine atom, provided that conditions described below are satisfied:

a. In (I-1) and (I-2), in a case in which at least one of X³, X⁴, X⁵ and X⁶ represents a fluorine atom, and a remainder represent hydrogen atoms, then at least one of X¹, X⁸, X⁹ and X¹⁰ represents either one of a chlorine atom and a fluorine atom,

b. In (I-1) and (I-2), in a case in which at least one of X¹, X⁸, X⁹ and X¹⁰ represents a fluorine atom, and a remainder represent hydrogen atoms, then at least one of X³, X⁴, X⁵ and X⁶ represents either one of a chlorine atom and a fluorine atom, and

c. In (I-3) to (I-9), hydrogen atoms within a ring may be

replaced with a cyano group or a halogen);

L^1 and L^2 each represent, independently, any one of $-\text{CH}_2\text{CH}_2-$, $-\text{C}\equiv\text{C}-$, $-(\text{CH}_2)_4-$, $-\text{CF}=\text{CF}-$, $-\text{OCH}_2-$, $-\text{CH}_2\text{O}-$, $-\text{OCF}_2-$, $-\text{CF}_2\text{O}-$, $-\text{CO}_2-$, $-\text{OCO}-$, $-\text{CH}=\text{N}-\text{N}=\text{CH}-$, $-\text{CH}=\text{CH}-\text{CH}_2-\text{CH}_2-$, $-\text{CH}_2-\text{CH}_2-\text{CH}=\text{CH}-$ and a

single bond; m and n each represent, independently, any one of 0, 1 and 2, although $m+n \leq 2$ and in a case in which either one of m and n is 2, then at least one of L^1 and L^2 , when present, represents a single bond; Y represents any one of a hydrogen atom, a fluorine atom, a chlorine atom, a trifluoromethoxy group, a difluoromethoxy group, a trifluoromethyl group, a 3,3,3-trifluoroethoxy group, a cyano group, a straight chain alkyl group of 1 to 16 carbon atoms, a straight chain alkenyl group of 2 to 16 carbon atoms, a straight chain alkyloxy group of 1 to 12 carbon atoms, and a straight chain alkenyloxy group of 2 to 16 carbon atoms, provided that cases described below are excluded:

i. a case in which ring B represents (I-2), m and n represent 0, R represents an alkyl group and Y represents an alkyl group,

ii. a case in which ring B represents (I-3), m and n represent 0, R represents an alkyl group and Y represents an alkoxy group,

iii. a case in which ring B represents (I-4), m and n represent 0, R represents an alkyl group and Y represents either one of an alkyl group and a cyano group,

iv. a case in which ring B represents (I-8), m and n represent 0, R represents an alkyl group and Y represents an alkyl

group,

5 any one of an alkyl group, an alkoxy group and a cyano group,

vii. a case in which ring B represents (I-2), m represents 0 and n represents 1, ring C represents a 1,4-cyclohexylene group, L^2 represents $-CO_2-$, R represents an alkyl group and Y represents an alkyl group,

ix. a case in which ring B represents (I-3), and X^3 , X^4 , X^5 and X^6 simultaneously represent fluorine atoms, and applying similarly to compounds equivalent to those above described using combinations of abbreviations).

20

25

a single bond.

4. A compound according to claim 1, wherein m represents 0, and n represents 0 or 1.

5

5. A compound according to claim 1, wherein L^1 and L^2 each represent a single bond.

6. A compound according to claim 1, wherein ring B represents (I-3) or (I-4) which may be substituted with a halogen.

7. A compound according to claim 1, wherein ring B represents (I-1) or (I-2).

15

8. A compound according to claim 1, wherein ring B represents (I-1), and X^9 and X^{10} both represent hydrogen atoms.

9. A compound according to claim 1, wherein ring A and ring C each represent, independently, a 1,4-phenylene group or a trans-1,4-cyclohexylene group which may be substituted with a fluorine atom, and ring B represents any one of (I-1), (I-2), (I-3) and (I-4) which may be substituted with a halogen.

10. A compound according to claim 1, wherein ring A and ring C each represent, independently, a 1,4-phenylene group or a trans-1,4-cyclohexylene group which may be substituted with a

10030185-0210

fluorine atom, ring B represents any one of (I-1), (I-2), (I-3) and (I-4) which may be substituted with a halogen, and L^1 and L^2 each represent a single bond..

5 11. A compound according to claim 1, wherein ring A and ring C each represent, independently, a 1,4-phenylene group or a trans-1,4-cyclohexylene group which may be substituted with a fluorine atom, ring B represents any one of (I-1), (I-2), (I-3) and (I-4) which may be substituted with a halogen, m
10 represents 0 and n represents 1, and L^2 represents a single bond.

12. A compound according to claim 1, wherein ring A and ring C each represent, independently, a 1,4-phenylene group or a
15 trans-1,4-cyclohexylene group which may be substituted with a fluorine atom, ring B represents any one of (I-1), (I-2), (I-3) and (I-4) which may be substituted with a halogen, m represents 0 and n represents 1, and L^2 represents a single bond, and in a case in which ring B represents (I-1) which may
20 be substituted with a halogen, X^9 and X^{10} both represent hydrogen atoms.

13. A compound according to any one of claims 1 through 12, wherein R represents either one of a straight chain alkyl
25 group of 1 to 12 carbon atoms and a straight chain alkenyl group of 2 to 12 carbon atoms, and Y represents any one of a fluorine atom, a chlorine atom, a trifluoromethoxy group, a

10030185-020102

trifluoromethyl group, a difluoromethoxy group, a 3,3,3-trifluoroethoxy group and a cyano group.

14. A liquid crystal composition incorporating at least one
5 compound according to any one of claims 1 through 13.

15. A liquid crystal display element utilizing a liquid
crystal composition according to claim 14.

10 16. An active matrix driven liquid crystal display element
utilizing a liquid crystal composition according to claim 14.

17. A supertwisted nematic liquid crystal display element
utilizing a liquid crystal composition according to claim 14.

15

2020050500102